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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant   :   William LEE et al.

Serial No.   :   09/975,690

Filed   :   October 11, 2001

For   :   SMART GENERATOR

Art Unit   :   2145

Examiner   :   Mitra KIANERS

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL
(37 CFR §41.37)

Pursuant to 37 C.F.R. § 41.31, et seq. appellants hereby appeal from the final rejection of the above identified application.

The final rejection is dated December 1, 2004. Appeal was noted, on March 2, 2005.

Pursuant to 37 C.F.R. § 41.20(b)(2), the fee for filing this Brief is also submitted. The fee is believed to be $500.00. Should be check be missing or is insufficient, the Commissioner is authorization is make adjustment by way of Deposit Account No. 500624, if such is necessary.

The following items are submitted in accordance with 37 C.F.R. § 41.37(c)(1).

I   REAL PARTY IN INTEREST

The real party interest is the assignee, BEA Systems, Inc.

II   RELATED APPEALS AND INTERFERENCES

To the best knowledge of appellants, assignee, and the undersigned, there are no other prior or pending appeals, interferences, or judicial proceedings which may be related to, directly affect, or have a bearing on the Board's decision in this appeal.

III   STATUS OF CLAIMS

Claims 1-18 were filed with the original application. Original claims 1 and 4 were amended by way of amendment.

Claims 19 and 20 were added by way of amendment.

Claims 1-20 are pending, all have been finally rejected, and all are appealed from.

IV   STATUS OF AMENDMENTS

No amendments have been offered after the final rejection of December 1, 2004.

V   SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter relates to a method of generating code for Enterprise JavaBean (EJB) components from a business process. The present method generates all the source code, object definitions, object relationships, and EJB-required files from a UML diagram or representation. Additionally, the present invention permits developers seamlessly update the generated EJB source by embedding code markers in the EJB source code. *See e.g.,* Figs. 1 and 7, page 8, line 9 to page 13, line 3.

VI   GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

All claims have been rejected under 35 U.S.C. § 103 over Thomas ("Container-Managed Persistence," Patricia Seybold Group, December 1998) in view of Underwood (U.S. Patent No. 6,601,233). This may be seen at page 3 of the final Office Action.

This rejection is presented for review.

VII   ARGUMENT

Claims 1-20 have been rejected under 35 U.S.C. §103 over Thomas and Underwood. To establish a prima facie case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP 2143.

A.   Combined References Do Not Teach Or Suggest All The Claim Limitations

The Examiner has failed to establish a prima facie case of obviousness because the combination of Thomas and Underwood does not teach or suggest all the claim limitations of claim 1.

1.   Thomas Does Not Teach Or Suggest Any of the Claimed Steps

Examiner asserts that Thomas describes "a method of generating code for Enterprise JavaBeans (EJB) components from a business process," (final Office Action, page 3, paragraph 1). Even suggested by the title of Thomas' paper "Container-Managed Persistence," Thomas describes the benefits of using container-managed persistence (*e.g., see* Thomas, page 9) and contrary to the Examiner's assertion, Thomas does not teach or suggest a method of generating code for EJB components from a business process.   In fact, the Examiner has essentially admitted that Thomas does not teach or suggest any of the claimed steps of claim 1 (*See* final Office Action, page 2; page 3, paragraph 1). Accordingly, it is unclear to appellants why Thomas is relevant as a prior art reference and additionally why the Examiner continues maintain Thomas as her primary reference in rejecting claim 1 of the present invention.

2.   Underwood Does Not Teach Or Suggest Embedding Code Markers

Appellants respectfully submit that only the present invention teaches or suggest "embedding code markers in said EJB source code to enable subsequent updates to said EJB source code," as required in claim 1.

The Examiner asserts that "Underwood in col. 17, lines 34-42, disclose that the modification may be carried out during a business logic execution. Further, in various services may be provided such as retrieving a single one of the text phrases, retrieving all of the text phrases in response to a single command, updating a single code and text phrase combination, updating all of the code and text phrase combinations, naming the table, adding a new code and text phrase combination, removing one of the code and text phrase combinations, and/or adding another table" (final Office Action, page 2; pages 3-4, paragraph 1).

However, the Examiner fails to cite Fig. 1B and col. 17, lines 31-33 in Underwood, "During operation, modification of the text phrases associated with each of the codes of the table is permitted." Hence, Underwood is clearly referring to modifying the codes table framework 140 and not EJB source code as incorrectly asserted by the Examiner. It is appreciated that the prior art must be considered in its entirety. (*See* MPEP 2141.03)

Additionally, Underwood describes that "a codes table framework 140 is provided for maintaining application consistency by reference text phrases through a short codes framework" (col. 17, lines 21-23) and "The role of [the code table] framework is to store frequently used code/decode sets on the web server and provide services that enable the application developer to retrieve the decode(s) associated with code(s)." (col. 17, lines 61-64). A "framework basically is a collection of cooperating classes that make up a reusable design solution for a given problem domain." (col. 15, lines 19-21) Accordingly, Underwood merely describes providing reusable design solution by storing frequently used codes in the code table framework.

Hence, appellants respectfully submits that Underwood merely describes a tool that essentially provides access to reusable codes, whereas the present invention provides a method for generating code for EJB components from a business process and embedding code markers in the EJB source code to enable subsequent updates to the EJB source code.

In other words, Underwood merely describes modifying the code table framework and contrary to the Examiner's assertion, Underwood does not teach or suggest modifying the EJB

source code by "embedding code markers." This, of course, is feature recited by independent claim 1 and not found in Thomas, as admitted by the Examiner. Further, the combination of Thomas and Underwood does not teach or suggest "adding business logic code between said code markers" embedded in the EJB source code and "synchronizing said UML model with said business logic code, thereby providing round trip engineering support", as required in claims 19 and 20, respectively. Moreover, appellants respectfully submit that one of ordinary skill in the art would not find that modifying the code table framework of Underwood containing frequently used codes is equivalent to embedding the code markers in the EJB source code to enable subsequent updates to the EJB source code as required in claim 1 of the present invention.

Even assuming *arguendo* that such combination is proper, since the combination of Thomas and Underwood does not teach or suggest embedding the code markers in the EJB source code to enable subsequent updates to the EJB source code, as required in claim 1 of the present invention, appellants respectfully submit that the Examiner has failed to establish the basic requirements of a prima facie case of obviousness. Therefore, appellants respectfully submit that independent claim 1 (and dependent claims 2-20) are nonobvious under 35 U.S.C. §103.

B.   There Is No Motivation To Combine Prior Art

The Examiner has failed to establish a prima facie case of obviousness because there is no motivation in Thomas or in Underwood that the teaching of these two references should be combined. Thomas and Underwood fail to suggest the desirability of the claimed invention because it is undeniable that neither Thomas nor Underwood is even remotely concern with the problem of providing provisions for subsequent updates by embedding code markers into the EJB source code, synchronizing the model and code, and round trip engineering support.

Since applicant has recognized a problem not addressed by the cited prior art and solved that problem in a manner not suggested by either Thomas or Underwood , the basis for patentability of the claims is established. See In re Wright, 6 U.S.P.Q. 2d, 1959, 1961-1962 (Fed. Cir. 1988). There, the CAFC relied upon previous decisions requiring a consideration of the problem facing the inventor in reversing the Examiner's rejection. "The problem solved by the invention is always relevant". Id. at 1962. See also, In re Rinehart, 189 U.S.P.Q. 143, 149

(CCPA 1967), which stated that the particular problem facing the inventor must be considered in determining obviousness.

Absent evidence that the specific problem of providing provisions for subsequent updates, synchronizing the model and code, and round trip engineering support was even recognized by the prior art, there can be no finding that the invention as a whole would have been obvious. As stated by the PTO Board of Appeals in Ex parte Breidt and Lefevre, 161 U.S.P.Q. 767, 768 (1968), "an inventive contribution can reside as well in the recognition of a problem as in a solution". It further appears that the conclusion reached by the Board of Appeals in Ex parte Minks, 169 U.S.P.Q. 120 (1969), is here in point. There, the Board concluded that "[a]ppellant having discovered the source of the problem and solved the same . . . he is . . . entitled to patent protection". Id. at 121.

Absent appellants' disclosure, there appears to be absolutely no reason to add Underwood to Thomas so as to provide a method for generating code for EJB components from a business process and embedding code markers in the EJB source code to enable subsequent updates to the EJB, especially since these two references are concerned with completely different problems. In fact, the only reason one might turn to Underwood, if at all, is because of the hindsight gleaned from applicant's own disclosure. The Federal Circuit has been consistent in warning against hindsight reconstruction of the prior art. As pointed out in Uniroyal v. Redkin-Wiley, 5 U.S.P.Q. 2d, 1434, 1438 (Fed. Cir. 1988):

> "When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. ...Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination."

<div align="center">*   *   *</div>

> "...it is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention."

In Uniroyal, the CAFC referred to Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Company, 221 U.S.P.Q. at 489, to conclude that "the mere fact that a device or

process utilizes a known scientific principal does not alone make that device or process obvious." 5 U.S.P.Q. 2d at 1440.

In <u>Orthopedic Equipment Company, Inc.</u> v. <u>United States</u>, 217 U.S.P.Q. 193-199 (Fed. Cir. 1983), the Federal Circuit warned,

> "The difficulty which attaches to all honest attempts to answer this question [of obviousness based upon a combination of prior art] can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness in a court of law."

In reversing an Examiner's rejection based upon obviousness, wherein the Examiner concluded that a claimed apparatus is shown simply by turning a prior art reference "upside down," the CAFC ruled:

> "The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification."

<u>In re Gordon</u>, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984), and citations noted therein.

In view of the foregoing, it is respectfully submitted that one of ordinary skill in the art, after reading and understanding Thomas, would not even turn to Underwood – and if she did, she would not understand how or why Underwood's code table framework should be combined with Thomas' EJB persistence mechanisms.

VIII   CLAIM APPENDIX

A clean copy of appealed claims 1-20 is appended herein.
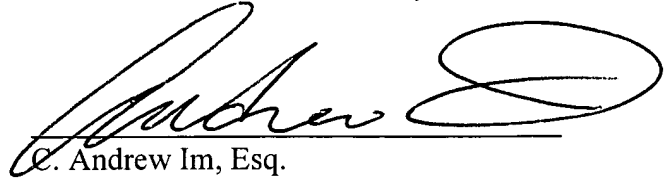

IX   EVIDENTIARY APPENDIX

None.

X   CONCLUSION

It is respectfully submitted, in light of above, all pending claims 1-20 are nonobvious under 35 U.S.C. §103 because the Examiner fail to establish a prima facie case of obviousness. Therefore, appellants request that the Board reverse the pending grounds for rejection.

Respectfully submitted,

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Enclosures: **Check for Appeal Brief**
Clean Copy of Appealed Claims

CLAIMS APPENDIX
(37 C.F.R. § 41.37(c)(viii)

LISTING OF CLAIMS ON APPEAL

1. A method of generating code for Enterprise JavaBean (EJB) components from a business process, comprising the steps of:

    graphically modeling said business process using a UML drawing tool to provide an UML model having a plurality of EJB Classes;

    defining relationships between said plurality of EJB classes;

    stereotyping each of said plurality of EJB classes into one or more EJB components;

    transforming each of said EJB components into EJB source code; and

    embedding code markers in said EJB source code to enable subsequent updates to said EJB source code.

2. The method of claim 1, further comprising the step of compiling said EJB source code to generate EJB application in accordance with deployment properties.

3. The method of claim 2, further comprising the step of deploying said EJB application to a server using one of the following: bean managed persistence or container managed persistence.

4. The method of claim 1, wherein the step of stereotyping stereotypes an EJB class into at least one of the following Smart EJB component: Belonging, Session, Entity, Configurable Entity, Business Policy and Workflow.

5. The method of claim 4, wherein an Entity EJB component comprises at least one interface and two EJB classes.

6. The method of claim 5, wherein said Entity EJB component being associated with a Primary Key class and a Value class.

7.　　The method of claim 1, wherein each EJB component includes at least one of the following: name, stereotype, attribute and method.

8.　　The method of claim 7, wherein each attribute includes a pair of accessor methods.

9.　　The method of claim 1, wherein said relationships includes at least one of the following: inheritance and aggregation.

10.　　The method of claim 9, wherein said aggregation includes multiplicity.

11.　　The method of claim 10, further comprising the steps of:

　　　　determining if said multiplicity relationship is one to many; and

　　　　stereotyping said aggregation relationship into a collection type if it is determined that said multiplicity relationship is one to many.

12.　　The method of claim 11, wherein said collection type includes one of the following: Set, Array, List or Map.

13.　　The method of claim 1, wherein each EJB component is a Smart Component having at least one Smart Feature.

14.　　The method of claim 13, wherein said Smart Feature includes one of the following: SmartKey, SmartHandle and SmartValue.

15.　　The method of claim 1, wherein said Smart component is an eBusiness Smart Component.

16.　　The method of claim 1, wherein the step of transforming includes the step generating said EJB codes according to a Code Template Dictionary.

17.　　The method of claim 16, wherein said Code Template Dictionary includes key-value pair entries.

18.　　The method of claim 17, wherein values of said Code Template Dictionary represent EJB code templates.

19. The method of claim 1, wherein the step of embedding includes the step of adding business logic code between said code markers.

20. The method of claim 19, further comprising the step of synchronizing said UML model with said business logic code, thereby providing round trip engineering support.

EVIDENTIARY APPENDIX
(37 C.F.R. § 41.37(c)(ix)

None.